

<b>Title</b>	<b>Analyse and implement plastics processing line quality improvements</b>		
<b>Level</b>	<b>5</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	People credited with this unit standard are able to analyse and implement plastics processing line quality improvements.
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<b>Classification</b>	Plastics Processing Technology > Plastics Processing - General
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<b>Available grade</b>	Achieved
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<b>Entry information</b>	
<b>Recommended skills and knowledge</b>	Unit 29447, <i>Use problem-solving models to determine solutions to resolve technical manufacturing processing problems.</i>

### Explanatory notes

- 1 Legislation relevant to this unit standard includes but is not limited to the Health and Safety at Work Act 2015.
- 2 Definitions  
*A Quality tool:*  
3 Sigma – a process in which the control limits are at  $\pm 3$  standard deviations from the mean.  
5S – methodology for waste elimination through workplace organisation, centred around five Japanese concepts, translated as: sort, straighten, shine, standardise, and sustain.  
6 Sigma – quality measurement and improvement programme which focuses on achieving very low failure rates, such as when the process control limits are  $\pm 6$  standard deviations from the mean.  
Agile manufacturing – the ability to accomplish rapid changeover between the manufacture of different products.  
Just in Time – an inventory strategy for improvement of return on investment by reducing in-process inventory and associated costs.  
Kaizen – an approach to productivity, based on continuous incremental process improvements through elimination of waste in machinery, labour, and production methods.  
Kanban – a ‘pull’ system at a stock point in which a supply batch is ordered only when a previous batch is withdrawn. Used to implement Just in Time.  
Lean manufacturing – a manufacturing methodology emphasizing the minimisation of all resources (including time) used in an enterprise, and typically employing Just in

Time, Kaizen, Kanban, TQM, and TPM. Also referred to as Competitive Manufacturing.

Poka Yoke – a methodology for preventing errors by imposing limits on an operation which force its correct completion.

SMED – Single Minute Exchange of Die, a strategy for rapid changeover of tooling.

TPM – Total Productive Maintenance, an approach to maintenance emphasizing preventive and predictive maintenance activities.

TQM – Total Quality Management, a management strategy aimed at embedding awareness of quality in all processes of an organisation.

*Plastics processing line* processing plant, ancillary machinery and associated human interactions used for processing plastics to make products. Examples include – machinery associated with the following specialist processes – injection moulding, extrusion, extrusion blow moulding, film conversion, film slitting, injection stretch-blow moulding, rotational moulding, thermoforming.

*Workplace procedures* – procedures used by the organisation carrying out the work and applicable to the tasks being carried out. Examples are – standard operating procedures, site safety procedures, equipment operating procedures, codes of practice, quality management practices and standards, procedures to comply with legislative and local body requirements.

- 3 Examples of plastics processing line quality improvements are – increased output, reduction in defects, maintaining process control limits to ensure specification, reduction in down time.
- 4 All evidence requirements must be performed in accordance with workplace procedures.

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## Outcomes and evidence requirements

### Outcome 1

Analyse and implement plastics processing line quality improvements.

### Evidence requirements

- 1.1 The performance of a plastics product processing line is analysed and documented using a quality tool.
- 1.2 Potential errors or improvements are identified using a quality tool.
- 1.3 A plan for implementation of improvements is developed and documented using a quality tool.
- 1.4 Improvements to the processing line are implemented using information from the quality tool analysis.

<b>Planned review date</b>	31 December 2021
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	15 September 2016	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Please note**

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMR). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

**Comments on this unit standard**

Please contact Competenz [qualifications@competenz.org.nz](mailto:qualifications@competenz.org.nz) if you wish to suggest changes to the content of this unit standard.